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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/928,681	08/13/2001	Takehisa Natori	09792909-5141	8174
26263	7590	10/20/2003	EXAMINER	
SONNENSCHN NATH & ROSENTHAL LLP P.O. BOX 061080 WACKER DRIVE STATION, SEARS TOWER CHICAGO, IL 60606-1080			MACCHIAROLO, PETER J	
			ART UNIT	PAPER NUMBER
			2875	

DATE MAILED: 10/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/928,681	NATORI, TAKEHISA	
	Examiner	Art Unit	
	Peter J Macchiarolo	2875	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 8-28-03 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>10</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Request for Continued Examination

1. The Request for Continued Examination (RCE) submitted on June 9, 2003 is in compliance with the provisions set forth in MPEP § 1.114. Accordingly, the RCE is being considered by the Examiner.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on June 9, 2003 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the Examiner.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu (JP 11-142878; Shimizu”).

4. In regards to claims 1, 2, and 5, Shimizu discloses a method of forming an image display unit which comprises forming a display element layer (43, light emitting diode) on a wafer (1st substrate), composed of display elements arrayed on a specific cycle, and separating the display element layer into the individual display elements while keeping the array of the display

elements; a selective resin/UV step of selecting the elements to be transferred and applying adhesive resin, and irradiating them with UV rays so that the selected display units are distinguishable from the non-selected display elements; and a mounting step of transferring the selected display elements onto a mounting board (2nd substrate) while keeping the specific intervals thereof. Shimizu further teaches that the method further comprises repeating the selective resin/UV step and the mounting step to array all of the display elements at the specific intervals on the mounting board. Shimizu further teaches that this method greatly reduces manufacturing costs¹.

5. Shimizu is silent to the elements having a magnetic film, and using the magnetic film to transfer the elements onto a mounting board.

6. However, Shimizu does disclose in paragraph [0063] that magnetic forces may be used instead of a UV adhesive resin. Although Shimizu is silent to the exact steps taken to use magnetic forces in a manufacturing process, one of ordinary skill in the art will recognize that a magnetic film is needed, instead of a layer of adhesive resin, to use magnetic forces when transferring the selected display elements onto a mounting board.

7. Further, one of ordinary skill will recognize that selecting the elements will require a selective magnetization step by selecting all of the display elements, those located discretely at specific intervals of a value equivalent to an integer-fold of the specific cycle, and magnetizing the magnetic film portions in such a manner that the magnetic film portion provided on the selected display units are magnetically distinguishable from the magnetic film portions provided

¹ Shimizu, Abstract.

on the non-selected display elements, followed by mounting the elements by magnetically attracting the selected display elements.

8. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct an image display unit using Shimizu's method of manufacturing using a magnetic film portion provided on the individual display elements, since this configuration is obvious in light of Shimizu's teachings.

9. In regards to claims 3 and 4, Shimizu teaches all of the recited limitations of claim 1 (above).

10. Shimizu further discloses that the manufacturing method includes mounting only the selected elements.

11. Shimizu is silent a magnetization step, but does disclose in paragraph [0063] that magnetic forces may be used instead of a UV adhesive resin.

12. Therefore, magnetizing magnetic film portions on all of the display elements in one direction, and re-magnetizing the magnetic film portions on the selected display elements in the opposed direction is an obvious method to magnetically distinguish and select the individual display elements. Further, mounting the magnetically selected elements by magnetically attracting only the selected display elements by using an electric magnet is an obvious method of mounting such elements.

13. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the image display unit using Shimizu's method of manufacturing, including the recited selective magnetization and mounting steps, since these

steps are an obvious way to magnetically distinguish and select the individual display elements when using magnetic charges in a method of manufacturing a image display unit.

14. In regards to claim 6, Shimizu teaches all of the recited limitations of claim 5 (above).

15. Shimizu is silent to forming an element with magnetic film portions, but does disclose in paragraph [0063] that magnetic forces may be used instead of a UV adhesive resin.

16. Therefore, forming a magnetic film, even on portions not obstructing light emission, of the front surfaces of the light emitting diodes, and magnetically connecting magnetic film portions individually separated from the magnetic film formed on the front surface sides of the light emitting diodes to the magnetic film portions formed on the back surface sides of the display elements, is an obvious method of forming a magnetic film which can allow using magnetic forces instead of a UV adhesive resin.

17. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the image display unit using Shimizu's method of manufacturing, including the recited magnetization forming step, since this step is an obvious method for forming a magnetic film on an element so as to use

18. In regards to claim 7, Shimizu teaches all of the recited limitations of claim 1 (above).

19. Shimizu is silent to eliminating, after arraying the display elements on the mounting board, the magnetization of the magnetic film portions on the display elements.

20. However, when using magnetic forces instead of UV adhesive resin to mount the display elements, removing the charges from the display elements is an obvious method, since extra magnetic forces will have a negative effect on the final assembled display element.

21. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the image display unit using Shimizu's method of manufacturing, including removing the magnetic forces used to mount the individual display elements, since this step is required for proper operation of the display device.

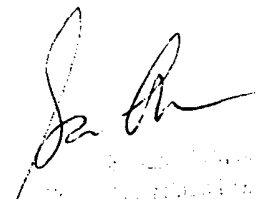
Conclusion

22. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter J Macchiarolo whose telephone number is (703) 305-7198. The examiner can normally be reached on 7.30 - 4:30, M-F.

23. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (703) 305-4939. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

24. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

pjm



Peter J Macchiarolo
Examiner
Art Unit 2875